

## **REMARKS**

By this Response, Applicants have amended claims 64 and 65, and added new claim 67. The subject matter recited in new claim 67 is supported in the originally-filed disclosure at least at page 21, lines 4-24. Thus, no new matter has been added by these amendments. Claims 32-46, 48, 50-59, 61, and 63-67 are pending on the merits.

### **I. Status of Office Action**

The Office Action issued November 18, 2009, has been designated "final." However, Applicants note the following inconsistencies and/or inaccuracies of the Office Action:

1. Claims 32-46, 48, 50-59, and 61 were rejected under 35 U.S.C. § 103(a) based on U.S. Patent No. 4,143,209 to Gerspacher et al. ("Gerspacher") in combination with U.S. Patent No. 4,725,340 to De Filippo et al. ("De Filippo") and U.S. Patent No. 4,859,811 to Sawada et al. ("Sawada"). Final Office Action at 2. However, the rejection statement does not refer to De Filippo, and relies on "Shemenski et al" in purported support of this claim rejection, even though the rejection statement does not identify "Shemenski et al." Id. at 2-3.
2. Although the Office Action Summary on the form PTOL-326 indicates that claim 63 has been rejected, the final Office Action does not include any claim rejection that lists claim 63 as being rejected.
3. Claims 64 and 65 have been rejected under 35 U.S.C. § 112, second paragraph. Id. at 2. Claims 64 and 65 have not been listed in any other claim rejection included in the final Office Action, but the final Office

Action does not indicate whether either of those claims would be allowable if amended overcome the rejection under § 112, second paragraph.

Because of these inconsistencies and/or inaccuracies, the status of at least some of the claims is unclear, and further, some claims do not appear to have received a complete examination on the merits. Therefore, Applicants respectfully request withdrawal of the “final” designation of this Office Action and entry of the amendments included in this Response. Further, if after thoughtful consideration of this Response, the Examiner does not believe the application is in condition for allowance, Applicants respectfully request that the next Office Action be designated “non-final,” so that Applicants will be provided with a fair opportunity to consider any objections and/or claim rejections and respond appropriately.

## **II. Claim Rejection under 35 U.S.C. § 112, Second Paragraph**

Claims 64-66 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Final Office Action at 2. The claim rejection asserts that “it is unclear how the ternary metal alloy comprises . . . Cu-Zn and at least one of the listed elements of claim 64.” Id. By this Response, Applicants have amended claim 64, such that it recites, in pertinent part, “wherein the ternary metal alloy of the metal coating layer comprises a Cu-Zn-X alloy, wherein X comprises one of manganese, cobalt, tin, molybdenum, and iron.” Claim 65 has been amended in a manner similar to claim 64. Applicants respectfully submit that claims 64 and 65, as amended, comply with 35 U.S.C. § 112, second paragraph. Claim 66 depends from claim 65. Therefore,

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 64-66 under 35 U.S.C. § 112, second paragraph.

**III. Rejection under § 103(a) based on Gerspacher, Shemenski, and Sawada**

Claims 32-46, 48, 50-59, and 61 were rejected under 35 U.S.C. § 103(a) based on Gerspacher in combination with De Filippo and Sawada. Final Office Action at 2. During a telephone conversation with the Examiner on January 11, 2010, the Examiner indicated that the rejection of claims 32-46, 48, 50-59, and 61 under 35 U.S.C. § 103(a) based on Gerspacher in combination with De Filippo and Sawada should have been based on Gerspacher in combination with U.S. Patent No. 4,545,834 to Shemenski et al. ("Shemenski") and Sawada. Thus, Applicants comments below regarding this claim rejection are based on an understanding that this claim rejection relies on Gerspacher, Shemenski, and Sawada rather than Gerspacher, De Filippo, and Sawada.

Of the claims included in this claim rejection, only claim 32 is an independent claim. Applicants respectfully submit that the rejection is improper because Gerspacher, Shemenski, and Sawada fail to render independent claim 32 *prima facie* obvious.

Applicants respectfully submit that the rejection under § 103(a) based on based on Gerspacher in combination with Shemenski and Sawada is improper because a person having ordinary skill in Gerspacher and Shemenski's art relating to processes for making wire for reinforcing tires would not have looked to Sawada's disclosure relating to processes for making high quality electrical conductors for use in winding magnet coils, acoustic- and image-forming appliances, and for connecting semiconductor elements in integrated circuits.

According to the M.P.E.P., if a reference is not one which, because of the matter with which it deals, logically would have commanded itself to an inventor's attention in considering his or her invention as a whole, the reference is non-analogous art. § 2141.01(a). Moreover, if a reference is non-analogous art, it cannot be relied on a claim rejection under 35 U.S.C. § 103(a). Id.

Applicants respectfully submit that there is no reason an ordinary artisan skilled in Gerspacher and Shemenski's art relating to processes for making wire for reinforcing tires would reasonably be expected to look to the art of making high quality electric conductors for audio devices and integrated circuits. Indeed, Gerspacher is concerned with the problem of improving the adhesion between the wire and the elastomeric material of tires, and to that end, with improving electroplating processes for coating a steel wire with brass. Similarly, Shemenski is concerned with improving adhesion between metal and rubber by sequentially electroplating copper, iron, and zinc onto a steel wire. In contrast, Sawada is concerned primarily with the problem of improving the quality and reliability of an electrical conductor, along with reducing the diameter of the electrical conductor, including coating a core wire with a coating of the same kind of material (e.g., coating a copper core wire with a copper coating) using a vapor deposition method. Thus, it is not reasonable to expect that an artisan in Gerspacher and Shemenski's field of reinforcing wires for tires would look to Sawada's electrical conductor field to solve a problem that has not been shown to be of interest in Gerspacher and Shemenski's field. Thus, Sawada is non-analogous art. For at least this additional reason, the Gerspacher, Shemenski, and Sawada references, when viewed as a whole, do not render Applicants' independent claim 32 *prima facie* obvious.

In the “Response to Arguments” section of the Office Action of February 10, 2009, the Examiner asserts that:

1. “the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference” (Office Action at 5);
2. “the objectives of Sawada’s teachings clearly make evident to the skilled artisan the advantage and objective to coating using vapor deposition (sputtering) or chemical vapor deposition (plasma CVD)” (id.); and
3. “Sawada and Gerspacher are both directed to manufacturing problems of coating wire where the material is processed subsequent to the coating by drawing,” and further, that “the skilled artisan would have been expected to look to the arts involving the processing of wire regardless of how the processed wire may or may not be used . . . .” Id. at 6-7.

Applicants respectfully disagree with the Examiner’s assertions. First, Applicants respectfully submit that the assertion regarding whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference, is immaterial with respect to whether a person skilled in one field would look to another field for teachings. Applicants have not argued that the features of Sawada’s teachings could not be bodily incorporated into the structure of Gerspacher (although Applicants do not concede that they could be). Rather, Applicants have noted that there is no reason an ordinary artisan skilled in Gerspacher and Shemenski’s art relating to processes for making wire for reinforcing tires would reasonably be expected to look to

the art of making high quality electric conductors for audio devices and integrated circuits.

Applicants respectfully disagree with the Examiner's assertion that Sawada's teachings relating to purported advantages and objectives of coating using vapor deposition (sputtering) or chemical vapor deposition (plasma CVD), would necessarily result in an artisan skilled in Gerspacher and Shemenski's art of electroplating reinforcing wire for tires looking to Sawada's unrelated art. Specifically, Gerspacher discloses a process for making rubber-adherable wire for reinforcing rubber articles, such as tires, using an electroplating process. Indeed, Gerspacher discloses that "[t]he present invention is directed specifically toward control of surface oxide layer during the plating and drawing process." (Col. 1, lines 29-31 (emphasis added).) In other words, Gerspacher's "invention" is to reduce the creation of an oxide layer during an "electroplating process." Thus, Gerspacher's teachings relate to improving a process for electroplating brass onto steel wire, and thus, a person skilled in Gerspacher's art would not would not look to Sawada's art that does not relate to electroplating. Indeed, modifying Gerspacher's teachings by replacing its electroplating process with Sawada's deposition coating technique would result in changing the principle disclosed in Gerspacher. Thus, a person skilled in Gerspacher's art would not look to Sawada's art that does not relate to electroplating. Similar comments apply to Shemenski, who teaches electroplating steel wires for reinforcing tires.

With respect to the assertion that Gerspacher and Sawada are both directed to manufacturing problems of coating wire where the material is processed subsequent to the coating by drawing, Applicants note that the Examiner's assertion characterizes the

sole commonality between the teachings of Gerspacher and Sawada in an overly broad manner that is immaterial with respect to whether someone in Gerspacher's field of making reinforcing wires for tires would reasonably be expected to look to Sawada's field relating to electrical conductors for acoustic appliances and semiconductor elements. A similar analogy might be made between paving roads and depositing thin films on semiconductor wafers and characterizing those fields as being related because they both relate to depositing barriers on surfaces. Applicants respectfully submit that a skilled artisan in Gerspacher's field of making reinforcing wires is about as likely to seek out the teachings of Sawada relating to "very thin" electrical conductors of "less than 30  $\mu\text{m}$ " (col. 3, lines 7, 8), as an artisan skilled in road paving would be to seek out the teachings of an artisan skilled in semiconductor wafer manufacturing for improvements in road paving techniques.

For at least the above-outlined reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of independent claim 32, as well as the rejection of claims 33-46, 48, 50-59, and 61, which depend from independent claim 32, under 35 U.S.C. § 103(a) based on Gerspacher in combination with Shemenski, and Sawada.

#### **IV. Rejection based on Gerspacher, Shemenski, Sawada, and De Filippo**

Claim 66 was rejected under 35 U.S.C. § 103(a) based on Gerspacher in combination with Shemenski, Sawada, and De Filippo. Final Office Action at 4. Claim 66 ultimately depends from independent claim 32. Thus, claim 66 is patentably distinguishable from Gerspacher, Shemenski, and Sawada for at least the same reasons as independent claim 32. Further, De Filippo fails to overcome the above-

noted deficiencies of the § 103(a) rejection of claim 32 based on Gerspacher, Shemenski, and Sawada. Moreover, claim 66 also depends from claims 64 and 65. Other than the rejection of claims 64 and 65 under § 112, second paragraph, claims 64 and 65 have not been rejected under either § 102 or § 103 based on prior art. Thus, claim 66 should also be allowable for at least the same reasons as claims 64 and 65. Therefore, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 66 under 35 U.S.C. § 103(a) based on Gerspacher, Shemenski, Sawada, and De Filippo.

**V. Dependent Claims 63-65**

**A. Claim 63**

The final Office Action does not include a claim rejection that lists claim 63 as being rejected or an indication that claim 63 recites allowable subject matter. Applicants respectfully submit that claim 63 is patentably distinguishable from Gerspacher, Shemenski, Sawada, and De Filippo, regardless of whether those references are viewed individually or as a whole, and thus, it should be allowed.

Claim 63 depends from independent claim 32, and it recites, "wherein the depositing the metal coating layer [(comprising a ternary metal alloy)] on the metal core is carried out via a single deposition step." Gerspacher, Shemenski, Sawada, and De Filippo, regardless of whether those references are viewed individually or as a whole, fail to disclose at least this subject matter recited in claim 63.

Gerspacher discloses coating a steel wire with brass. However, Gerspacher fails to disclose (1) coating a steel wire using a plasma deposition technique, as recited in independent claim 32, (2) coating a steel wire with a ternary metal alloy, as recited in



independent claim 32, or (3) or coating a steel wire via a single deposition step, as recited in claim 63.

Shemenski discloses coating a steel wire with a ternary metal alloy of copper, iron, and zinc via plural, sequential electroplating steps. However, Shemenski fails to disclose (1) coating a steel wire via a plasma deposition technique, as recited in independent claim 32, or (2) coating a steel wire via a single deposition step, as recited in claim 63. Indeed, Shemenski discloses three separate electroplating steps, followed by a heating step to promote diffusion of the copper, iron, and zinc layers.

Sawada discloses coating a metal wire with a coating of the same metal via a plasma coating method. However, Sawada does not (1) disclose coating a steel wire with a ternary metal alloy, as recited in independent claim 32, or (2) coating a steel wire with a ternary metal alloy via a single deposition step, as recited in claim 63.

De Filippo discloses coating steel wire with brass via electroplating. However, De Filippo does not disclose (1) coating a steel wire using a plasma deposition technique, as recited in independent claim 32, (2) coating a steel wire with a ternary metal alloy, as recited in independent claim 32, or (3) or coating a steel wire via a single deposition step, as recited in claim 63.

Thus, Gerspacher, Shemenski, Sawada, and De Filippo, regardless of whether those references are viewed individually or as a whole, fail to disclose all of the subject matter recited in claim 63. For at least these reasons, Applicants respectfully submit that claim 63 is patentably distinguishable from Gerspacher, Shemenski, Sawada, and De Filippo. Therefore, Applicants respectfully request allowance of claim 63.

**B. Claim 64**

Claim 64 was rejected under 35 U.S.C. § 112, second paragraph, as outlined previously herein, but was neither rejected under § 102 or § 103 nor allowed. Claim 64 depends from independent claim 32. Thus, claim 64 is patentably distinguishable from Gerspacher, Shemenski, and Sawada for at least the same reasons as independent claim 32. Further, De Filippo fails to overcome the above-noted deficiencies of the § 103(a) rejection of claim 32 based on Gerspacher, Shemenski, and Sawada. Therefore, Applicants respectfully request allowance of claim 64.

**C. Claim 65**

Claim 65 was rejected under 35 U.S.C. § 112, second paragraph, as outlined previously herein, but was neither rejected under § 102 or § 103 nor allowed. Claim 65 depends from independent claim 32. Thus, claim 65 is patentably distinguishable from Gerspacher, Shemenski, and Sawada for at least the same reasons as independent claim 32. Further, De Filippo fails to overcome the above-noted deficiencies of the § 103(a) rejection of claim 32 based on Gerspacher, Shemenski, and Sawada.

Moreover, claim 65 recites, *inter alia*, “depositing a brass layer on the core; and depositing a layer comprising one of manganese, cobalt, tin, molybdenum, and iron on the brass layer.” Gerspacher, Shemenski, Sawada, and De Filippo, regardless of whether those references are viewed individually or as a whole, fail to disclose at least this subject matter recited in claim 65.

Gerspacher discloses coating a steel wire with brass. However, Gerspacher fails to disclose (1) coating a steel wire using a plasma deposition technique, as recited in independent claim 32, (2) coating a steel wire with a ternary metal alloy, as recited in

independent claim 32, or (3) or depositing a layer comprising one of manganese, cobalt, tin, molybdenum, and iron on the brass layer, as recited in claim 65.

Shemenski discloses coating a steel wire with a ternary metal alloy of copper, iron, and zinc via plural, sequential electroplating steps. However, Shemenski fails to disclose (1) coating a steel wire via a plasma deposition technique, as recited in independent claim 32, or (2) depositing a brass layer on the core, and depositing a layer comprising one of manganese, cobalt, tin, molybdenum, and iron on the brass layer, as recited in claim 65.

Sawada discloses coating a metal wire with a coating of the same metal via a plasma coating method. However, Sawada does not (1) disclose coating a steel wire with a ternary metal alloy, as recited in independent claim 32, or (2) depositing a brass layer on the core, and depositing a layer comprising one of manganese, cobalt, tin, molybdenum, and iron on the brass layer, as recited in claim 65.

De Filippo discloses coating steel wire with brass via electroplating. However, De Filippo does not disclose (1) coating a steel wire using a plasma deposition technique, as recited in independent claim 32, (2) coating a steel wire with a ternary metal alloy, as recited in independent claim 32, or (3) or depositing a layer comprising one of manganese, cobalt, tin, molybdenum, and iron on the brass layer, as recited in claim 65.

For at least the above-outlined reasons, Gerspacher, Shemenski, Sawada, and De Filippo, regardless of whether those references are viewed individually or as a whole, fail to disclose all of the subject matter recited in claim 65. Therefore, Applicants respectfully submit that claim 65 is patentably distinguishable from Gerspacher,

Shemenski, Sawada, and De Filippo. Therefore, Applicants respectfully request allowance of claim 65.

#### **IV. New Dependent Claim 67**

Applicants' new dependent claim 67 depends from independent claim 32 and recites, *inter alia*, "wherein the ternary metal alloy comprises one of manganese, cobalt, tin, and molybdenum." Gerspacher, Shemenski, Sawada, and De Filippo, regardless of whether those references are viewed individually or as a whole, fail to disclose this subject matter. For example, Shemenski, which is relied on in the final Office Action as disclosing a ternary metal alloy, discloses a ternary iron-brass alloy. However, Shemenski fails to disclose a ternary metal alloy comprising one of manganese, cobalt, tin, and molybdenum, as recited in new dependent claim 67. Thus, new claim 67 is patentably from Gerspacher, Shemenski, Sawada, and De Filippo, regardless of whether those references are viewed individually or as a whole. Therefore, Applicants respectfully request allowance of new claim 67.

#### **V. Conclusion**

As outlined above, independent claim 32 should be allowable. Dependent claims 33-46, 48, 50-59, 61, and 63-66, depend from allowable independent claim 32. New dependent claim 67 depends from allowable independent claim 32. Therefore, each of the dependent claims should be allowable for the same reasons as independent claim 32, as well as by virtue of their recitations of additional novel and non-obvious subject matter, as outlined above.

Applicants respectfully request reconsideration of this application, entry of the claim amendments, withdrawal of the claim rejections, and allowance of claims 32-46, 48, 50-59, 61, and 63-67.

If the Examiner believes that a telephone conversation might advance prosecution, the Examiner is cordially invited to call Applicants' undersigned attorney at (404) 653-6559.


Applicants respectfully submit that the final Office Action contains a number of assertions concerning the related art and the claims. Regardless of whether any of those assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.

Please grant any extensions of time required to enter this Response and charge any additional required fees to our Deposit Account 6-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

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By:   
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Christopher T. Kent  
Reg. No. 48,216